Screening of Adolescents for HIV in a Large Urban Pediatric Emergency Department: How to Do it Right?

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Background

- In 2006 Centers for Disease Control (CDC) recommended offering opt-out HIV screening to all patients 13-64 years old

- These recommendations do not specify best practices for implementing routine screening in Emergency Departments (ED)

- In the past 5 years majority of the studies on HIV screening have been conducted in adult ED settings where adolescents represent a small subgroup of the population
Background

- Children’s National Medical Center (CNMC) is located in an area of high HIV prevalence (3.2%)

- In March 2009 CNMC implemented an opt-out oral fluid rapid HIV screening in the ED for all patients ≥13 years old

- The **goal of this study** was to evaluate the implementation of adolescent HIV screening and to identify the barriers towards opt-out HIV screening in a large urban pediatric ED
Methods

- Prospective study of HIV screening of adolescents (≥13 years old) in a pediatric ED during the first 20 months of the implementation of ED HIV screening program (March 2009-October 2010)
- Study protocol approved by Institutional Review Board
- Oral Fluid HIV (OraQuick ADVANCE) testing kits were provided by Department of Health (DOH) through the support of CDC funding
Methods

- Data collected from the ED clinical database included: age, race, sex, reasons of not offering the HIV screening test and the HIV screening results
- The primary outcome measure was the number and proportion of age-eligible patient visits where HIV screening was offered, accepted and performed
- The number of patients with a reactive oral HIV test who were confirmed to have a new diagnosis of HIV infection were collected
Screening Algorithm

Figure 1: Testing Algorithm
Results

• In the initial stages HIV screening was performed by ED nursing personnel with physician order

• Significant increases in the ED patient volumes with an outbreak of H1N1 epidemic produced low rates of screening by ED nursing
The rates of screening were directly related to the presence of the 2.5 FTE dedicated testers (p<0.0001) and the implementation of the triage nursing order (p=0.0001).
Results

• During 20 months of the program screening rates increased 12.2 fold from minimal 35 patients in May 2009 to maximal 428 patients in April 2010

• During March 2009 – October 2010 there were 25,737 visits by patients ≥13 years old of which 4566 (17.7%) were tested for HIV
## Results of HIV Screening

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Patients ≥13yrs seen in ED during time period</td>
<td>7,721**</td>
<td>7,721**</td>
<td>7,721**</td>
<td>2,574**</td>
</tr>
<tr>
<td>Patients approached</td>
<td>778 (10%)</td>
<td>1969 (26%)</td>
<td>3013 (39%)</td>
<td>1158 (45%)</td>
</tr>
<tr>
<td>Patients accepted test</td>
<td>607 (78%)*</td>
<td>1258 (64%)*</td>
<td>2250 (75%)*</td>
<td>814 (70%)*</td>
</tr>
<tr>
<td>Patients tested</td>
<td>569 (73%)*</td>
<td>1106 (56%)*</td>
<td>2108 (70%)*</td>
<td>783 (68%)*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patients tested, by gender</th>
<th>Female</th>
<th>Male</th>
<th>Transgender</th>
<th>Female</th>
<th>Male</th>
<th>Transgender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>359</td>
<td>210</td>
<td>0</td>
<td>652</td>
<td>454</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1200</td>
<td>907</td>
<td>0</td>
<td>405</td>
<td>378</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1705</td>
<td>170</td>
<td>0</td>
<td>617</td>
<td>73</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>617</td>
<td>73</td>
<td>0</td>
<td>617</td>
<td>73</td>
<td>0</td>
</tr>
<tr>
<td>Patients tested, by race</td>
<td>Black</td>
<td>Hispanic</td>
<td>White</td>
<td>Asian</td>
<td>Other/unknown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>482</td>
<td>38</td>
<td>29</td>
<td>0</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>900</td>
<td>94</td>
<td>37</td>
<td>4</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1705</td>
<td>170</td>
<td>82</td>
<td>7</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td></td>
<td>617</td>
<td>73</td>
<td>33</td>
<td>1</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Patients tested, mean age</td>
<td>16.9</td>
<td>16.5</td>
<td>16.4</td>
<td>16.3</td>
<td></td>
<td></td>
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<tr>
<td>Reactive tests</td>
<td>2 (0.35%)*</td>
<td>0 (0%)*</td>
<td>4 (0.19%)*</td>
<td>2 (0.26%)*</td>
<td></td>
<td></td>
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<tr>
<td>Confirmed HIV-infected &amp; Linked-to-Care</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
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</tbody>
</table>

*2 month time period ; **estimated from annual number of patients seen in ED; *percentage based on those approached; #percentage based on those tested
Not Approached for Screening

- Deferred by ED staff: 25.8%
- Lack of time: 23.9%
- Unstable/medical reasons: 16.9%
- Recently tested: 14.8%
- Lack of privacy: 6.0%
- Known HIV positive: 10.8%
- Other: 1.8%
- Recently tested: 14.8%
- Lack of privacy: 6.0%
- Known HIV positive: 10.8%
- Other: 1.8%
Conclusions

• Implementation of the routine HIV opt-out screening in the ED requires multi level support
• Creation of a task force comprised of all stakeholders (hospital, ED, infectious disease, adolescent health, laboratory specialists) is crucial for the success of the program
• The concept is well received, but requires ongoing efforts to keep all parties involved
Conclusions

• Evaluation of the patients/guardians’ attitudes was helpful in the development of the screening algorithm specific to the adolescent population

• The conditions of the disclosure of the test results need to be discussed prior to the screening

• Routine opt-out rapid oral fluid HIV screening is accepted by the majority of adolescents seen in pediatric ED
Conclusions

• Addition of dedicated testing personnel and transition of the physician generated to the triage nursing generated order has significantly increased screening rates in our ED

• Flexibility and continuous adaptation of the algorithm are required for the success of the program

• Transition to the ED staff performing the test and development of the billing procedure will become necessary to fully integrate the ED HIV screening program into standard of care
Conclusion

In addition to identifying HIV-infected adolescent community members, ED screening program provides excellent opportunity for the education about HIV, safe sex practices, and increased HIV awareness among adolescents and young adults.
Acknowledgements

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• Oral Fluid HIV OraQuick testing kits were provided to the CNMC by DC DOH through the support of CDC funding

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